

UNITED STATES DISTRICT COURT  
EASTERN DISTRICT OF TEXAS  
SHERMAN DIVISION

AR DESIGN INNOVATIONS LLC	§ § § v.	
ASHLEY FURNITURE INDUSTRIES, INC.	§ § §	CIVIL NO. 4:20-CV-392-SDJ LEAD CASE
LA-Z-BOY, INC.	§ §	CIVIL NO. 4:20-CV-395-SDJ

**MEMORANDUM OPINION AND ORDER**

Before the Court is Defendants Ashley Furniture Industries, Inc.’s (“Ashley”) and La-Z-Boy Incorporated’s (“La-Z-Boy”) Motion to Dismiss. (Dkt. #19). Plaintiff AR Design Innovations LLC (“AR Design”) has responded, (Dkt. #32), Ashley and La-Z-Boy have replied, (Dkt. #35), and AR Design has filed a sur-reply, (Dkt. #40).<sup>1</sup> Having considered the motion, the subsequent briefing, and the relevant law, the Court concludes that the motion should be DENIED.

**I. BACKGROUND**

AR Design is the owner of U.S. Patent No. 7,277,572 (the “572 Patent”). The ’572 Patent, which is titled “Three-Dimensional Interior Design System,” describes a “software application configured to reside on a client computer, which is capable of manipulating 3-D object representations in-situ with a user-selected or user-generated interior design scene, and rendering photographic quality perspective

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<sup>1</sup> AR Design’s response also responds to a substantively similar motion to dismiss filed by a now-dismissed Defendant, Ethan Allen Interiors, Inc.

images of the composite scene.” ’572 Patent col. 1 ll. 8–13. More specifically, Claim 1 of the ’572 Patent, which the Court concludes is representative of the other claims, and which is the only asserted independent claim, reads as follows:

1. A method in a client-server computing environment for generating and rendering a photorealistic three-dimensional (3D) perspective view of a 3D object selectively positioned within a 3D scene, the method comprising:
  - (a) communicably accessing a server with a client;
  - (b) operating with the client, a client application configured for scene editing and rendering, including a graphical user interface (GUI);
  - (c) displaying a 3D with the GUI;
  - (d) configuring the 3D scene for being selectively displayed in a plurality of views;
  - (e) retrieving at least one 3D object from the server;
  - (f) importing the 3D object into the 3D scene to generate a composite;
  - (g) manipulating the 3D object within the composite for placement and orientation;
  - (h) rendering a 3D image of the composite at the client;
  - (i) selectively reconfiguring the 3D image in real time;
  - (j) applying luminosity characteristics to the 3D image; and
  - (k) rendering, with the client application, a photorealistic 3D view of the composite image, including the luminosity characteristics.

’572 Patent col. 36 ll. 20–42.

The ’572 Patent’s specification contemplates sundry embodiments. One such embodiment relevant here is the use of the technology as a means for furniture manufacturers and sellers to “showcase their products.” ’572 Patent col. 7 ll. 1–2. The specification states that the patent “will allow end users to see a manufacturer’s

products in full, realistic, 3D with the ability to change the texture (textile covering, finish, etc.) of the product” and “may allow a furniture manufacturer to exhibit their sofas or chairs covered in all of the different materials offered by them.” *Id.* col. 7 ll. 2–7.

Defendants Ashley and La-Z-Boy are furniture companies. AR Design alleges that both companies have developed mobile software applications—the Ashley HomeStore Mobile App and the La-Z-Boy AR application—that infringe upon the ’572 Patent. Specifically, AR Design alleges that these mobile applications allow Defendants’ customers to generate and render photorealistic 3D objects (Defendants’ products), selectively position those objects within a 3D scene (the customers’ rooms), and rearrange or edit the objects and scenes in real time. Defendants now move to dismiss AR Design’s patent-infringement claim, asserting that AR Design’s ’572 Patent is not eligible as a patent under 35 U.S.C. § 101 because it is “directed to” an abstract idea—specifically, the abstract idea of “retrieving, manipulating, and displaying three-dimensional objects in space,” which, Defendants argue, “is just a well-known longstanding practice commonly used by model builders, students constructing dioramas, architects, and even movie makers.” (Dkt. #19 at 18).

## II. LEGAL STANDARD

### A. Rule 12(b)(6)

Patent eligibility under Section 101 can often be resolved on a motion to dismiss. *Berkheimer v. HP Inc.*, 881 F.3d 1360, 1368 (Fed. Cir. 2018) (“*Berkheimer I*”). When a 12(b)(6) motion to dismiss for failure to state a claim challenges the eligibility

of a patent, courts apply the same, well-known standard that applies to all 12(b)(6) motions. *Aatrix Software, Inc. v. Green Shades Software, Inc.*, 890 F.3d 1354, 1357 (Fed. Cir. 2018) (en banc) (per curiam).

In order to survive a Rule 12(b)(6) motion to dismiss, “a complaint must contain sufficient factual matter, accepted as true, to ‘state a claim to relief that is plausible on its face.’” *Waller v. Hanlon*, 922 F.3d 590, 599 (5th Cir. 2019) (quoting *Ashcroft v. Iqbal*, 556 U.S. 662, 678, 129 S.Ct. 1937, 173 L.Ed.2d 868 (2009)). This involves a two-step inquiry. First, courts assess the allegations of the complaint and distinguish well-pleaded factual allegations from unsupported legal conclusions. *Id.* (citing *Doe v. Robertson*, 751 F.3d 383, 388 (5th Cir. 2014)). The complaint need not lay out its factual allegations in significant detail, but it must be enough that, when accepted as true, the allegations suggest that the plaintiff’s right to recovery is more than just speculative. *Bell Atl. Corp. v. Twombly*, 550 U.S. 544, 555, 127 S.Ct. 1955, 167 L.Ed.2d 929 (2007). This means that a complaint requires more than mere “labels and conclusions” or a “formulaic recitation of the elements of a cause of action,” and courts need not assume the truth of legal conclusions framed as allegations. *Id.*

Second, courts must “ask whether the remaining allegations are sufficient to nudge the plaintiff’s claim across the plausibility threshold.” *Waller*, 922 F.3d at 599 (quotation and brackets omitted); *accord Iqbal*, 556 U.S. at 678. In other words, courts determine whether the complaint’s factual allegations establish more than just a possibility of the plaintiff’s success on its claims. Making this determination is “a content-specific task that requires the reviewing court to draw on its judicial

experience and common sense.” *Waller*, 922 F.3d at 599 (internal quotation marks omitted) (quoting *Iqbal*, 556 U.S. at 679).

### **B. The *Alice/Mayo* Test**

Under 35 U.S.C. § 101, “[w]hoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.” However, the Supreme Court has long held that Section 101 contains an implicit exception to patent eligibility for claims directed toward laws of nature, physical phenomena, and abstract ideas. *Diamond v. Chakrabarty*, 447 U.S. 303, 309, 100 S.Ct. 2204, 65 L.Ed.2d 144 (1980); *accord Ass’n for Molecular Pathology v. Myriad Genetic, Inc.*, 569 U.S. 576, 589, 133 S.Ct. 2107, 186 L.Ed.2d 124 (2013). Relevant here, “[t]he abstract idea exception has been applied to prevent patenting of claims that abstractly cover results where ‘it matters not by what process or machinery the result is accomplished.’” *McRO, Inc. v. Bandai Namco Games Am., Inc.*, 837 F.3d 1299, 1314 (Fed. Cir. 2016) (quoting *O'Reilly v. Morse*, 56 U.S. 62, 113, 15 How. 62, 14 L.Ed. 601 (1853)). In other words, “[a] patent is not good for an effect, or the result of a certain process because such patents would prohibit all other persons from making the same thing by any means whatsoever.” *Id.* (internal quotation marks omitted) (quoting *Le Roy v. Tatham*, 55 U.S. 156, 175, 14 How. 156, 14 L.Ed. 367 (1853)); *see also Diamond v. Diehr*, 450 U.S. 175, 182 n.7, 101 S.Ct. 1048, 67 L.Ed.2d 155 (1981) (holding that a patent may issue “for the means or method of producing a certain result, or effect, and not for the result or effect

produced”). Courts must “therefore look to whether the claims . . . focus on a specific means or method that improves the relevant technology or are instead directed to a result or effect that itself is the abstract idea and merely invoke generic processes and machinery.” *McRO*, 837 F.3d at 1314 (citations omitted).

The abstract-idea exception, “is not without limits,” though, “for ‘all inventions at some level embody, use, reflect, rest upon, or apply laws of nature, natural phenomena, or abstract ideas,’ and ‘too broad an interpretation of this exclusionary principle could eviscerate patent law.’” *Ass’n for Molecular Pathology*, 569 U.S. at 589–90 (quoting *Mayo Collaborative Servs. v. Prometheus Lab’ys, Inc.*, 566 U.S. 66, 71, 132 S.Ct. 1289, 182 L.Ed.2d 321 (2012)). Thus, “[w]hether a claim recites patent eligible subject matter is a question of law which may contain disputes over underlying facts.” *Berkheimer I*, 881 F.3d at 1368.

To aid courts in making this determination, the Supreme Court has established a two-step “framework for distinguishing patents that claim laws of nature, natural phenomena, and abstract ideas from those that claim patent-eligible *applications* of those concepts.” *Alice Corp. Pty. Ltd. v. CLS Bank Int’l*, 573 U.S. 208, 217, 134 S.Ct. 2347, 189 L.Ed.2d 296 (2014) (emphasis added); *see also Mayo*, 566 U.S. at 77. First, courts must determine whether the claims are directed to a patent-ineligible concept. *Alice*, 573 U.S. at 217. If so, courts must determine whether there are additional elements beyond the patent-ineligible concept that “transform the nature of the claim” into a patent-eligible application. *Id.* (citation omitted). The Federal Circuit has recognized that “precision has been elusive in defining an all-

purpose boundary between the abstract and the concrete.” *Internet Patents Corp. v. Active Network, Inc.*, 790 F.3d 1343, 1345 (Fed. Cir. 2015). However, courts are to look to the Federal Circuit’s decisions applying *Alice* and *Mayo* for the “substantial guidance” provided therein “in determining whether claims are unpatentable under the ‘abstract idea’ rubric.” *Affinity Labs of Tex., LLC v. DIRECTV, LLC*, 838 F.3d 1253, 1258 (Fed. Cir. 2016) (“*Affinity Labs I*”).

### III. DISCUSSION

#### A. The Standard for Determining Whether a Claim is Directed to an Abstract Idea

The first step of the *Alice/Mayo* inquiry requires a court to determine if the claims are directed to a law of nature, natural phenomenon, or abstract idea. *Alice*, 573 U.S. at 217. “If not, the claims pass muster under § 101.” *Ultramercial, Inc. v. Hulu, LLC*, 772 F.3d 709, 714 (Fed. Cir. 2014). In conducting this inquiry, “the claims are considered in their entirety to ascertain whether their character as a whole is directed to excluded subject matter.” *Internet Patents*, 790 F.3d at 1346; *see also Affinity Labs I*, 838 F.3d at 1257 (stating that the first step “calls upon us to look at the ‘focus of the claimed advance over the prior art’ to determine if the claim’s ‘character as a whole’ is directed to excluded subject matter”).

Courts must take care not to oversimplify key inventive concepts or downplay an invention’s benefits. *Enfish, LLC v. Microsoft Corp.*, 822 F.3d 1327, 1337–38 (Fed. Cir. 2016); *see also McRO*, 837 F.3d at 1313 (explaining that “courts must be careful to avoid oversimplifying the claims by looking at them generally and failing to account for the specific requirements of the claims.” (quotation omitted)).

Moreover, “it is not enough to merely identify a patent-ineligible concept underlying the claim; we must determine whether that patent-ineligible concept is what the claim is ‘directed to.’” *Rapid Litig. Mgmt. Ltd. v. CellzDirect, Inc.*, 827 F.3d 1042, 1050 (Fed. Cir. 2016).

Abstract ideas, which are unpatentable, “are products of the mind, mental steps, not capable of being controlled by others, regardless what a statute or patent claim might say.” *Berkheimer v. HP Inc.*, 890 F.3d 1369, 1375 (“*Berkheimer II*”) (Lourie, J., concurring in denial of rehearing en banc) (citing *Gottschalk v. Benson*, 409 U.S. 63, 67, 93 S.Ct. 253, 34 L.Ed.2d 273 (1972)). In the context of software applications, the dichotomy between patentable concrete ideas and unpatentable abstract ideas typically turns on whether the patent is directed to “an improvement in the functioning of a computer,” which is patentable, or to a method that simply recited “generalized steps to be performed on a computer using conventional computer activity,” which is unpatentable. *Enfish*, 822 F.3d at 1338 (citing *Alice*, 573 U.S. at 222–26); *see also Simio, LLC v. FlexSim Software Prods., Inc.*, 983 F.3d 1353, 1361 (Fed. Cir. 2020) (holding that a patent must improve the computer’s functionality rather than merely improve the experience of users who cannot or would rather not themselves use programming to improve their experience); *In re TLI Commc’ns LLC Patent Litig.*, 823 F.3d 607, 611 (Fed. Cir. 2016) (holding that, while the claim on its face recited “concrete, tangible components such as ‘a telephone unit’ and a ‘server,’ the specification ma[de] clear that the recited physical components

merely provide[d] a generic environment in which to carry out the abstract idea of classifying and storing digital images in an organized manner”).

For example, the Federal Circuit has deemed the following to be abstract ideas to which software-patent claims were directed: providing out-of-region access to regional radio broadcast content via a mobile software application, *Affinity Labs I*, 838 F.3d at 1258, encoding and decoding image data, *RecogniCorp, LLC v. Nintendo Co., Ltd.*, 855 F.3d 1322, 1327 (Fed. Cir. 2017), collecting and organizing information about available real-estate properties and displaying this information on a digital map that can be manipulated by the user, *Move, Inc. v. Real Estate All. Ltd.*, 721 F.App’x 950, 954 (Fed. Cir. 2018), parsing, comparing, classifying, storing, and editing data from hard-copy documents in a software application, *Berkheimer I*, 881 F.3d at 1367, creating and applying a template of positions of one or more computer-game contents, *GREE, Inc. v. Supercell Oy*, 834 F.App’x 583, 588 (Fed. Cir. 2020), using graphical objects as a base from which to create additional graphical objects in an object-oriented simulation model instead of programming each new object, *Simio*, 983 F.3d at 1359–60, and transmitting a request for demographic or psychographic user information, saving the user information, and matching the user to a specific advertiser, *In re Morsa*, 809 F.App’x 913, 917 (Fed. Cir. 2020).

By contrast, the Federal Circuit has held the following patent claims to *not* be directed to abstract ideas: using a plurality of network monitors that each analyze specific types of data on the network and integrating the monitors’ reports to identify hackers into the network, *SRI Int’l, Inc. v. Cisco Sys., Inc.*, 930 F.3d 1295, 1303

(Fed. Cir. 2019), creating a self-referential database table that functioned differently from and improved upon conventional database structures, *Enfish*, 822 F.3d at 1335–37, animation software’s automatically employing specific, limited mathematical rules instead of animators’ prior convention of relying on subjective determinations, *McRO*, 837 F.3d at 1314, a display interface’s allowing users to more quickly access stored data and programs in small-screen electronics, *Core Wireless Licensing S.A.R.L. v. LG Elecs., Inc.*, 880 F.3d 1356, 1359 (Fed. Cir. 2018), and, most relevant here, a graphical user interface’s improving the speed, accuracy, and usability of a system used for trading market commodities, *Trading Techs. Int’l, Inc. v. CQG, Inc.*, 675 F.App’x 1001, 1003 (Fed. Cir. 2017).

## **B. Applicable Federal Circuit Precedent**

In determining whether claims are directed to an unpatentable abstract idea, courts are instructed to look to the Federal Circuit’s large body of post-*Alice* decisions. *Affinity Labs I*, 838 F.3d at 1258. The Court begins by analyzing two particularly analogous decisions in which the Federal Circuit held that the patents at issue were not directed to an abstract idea: *Core Wireless* and *Trading Technologies*.

In *Core Wireless*, the asserted claims disclosed “improved display interfaces, particularly for electronic devices with small screens like mobile telephones.” 880 F.3d at 1359. “The improved interfaces allow[ed] a user to more quickly [than conventional navigation approaches] access desired data stored in, and functions of applications included in, the electronic devices.” *Id.* The plaintiff patent-holder sued the defendant for patent infringement, and the defendant moved for summary

judgment of the invalidity of the asserted claims under 35 U.S.C. § 101. *Id.* at 1360. The district court denied summary judgment and the action proceeded to trial where the jury found all asserted claims valid and infringed upon. *Id.* On appeal, the Federal Circuit affirmed, holding that “[t]he asserted claims in this case are directed to an improved user interface for computing devices, not to the abstract idea of an index, as argued by LG on appeal.” *Id.* at 1362. The court continued: “Although the generic idea of summarizing information certainly existed prior to the invention, these claims are directed to a particular manner of summarizing and presenting information in electronic devices.” *Id.*

In *Trading Technologies*, the two patents at issue “describe[d] and claim[ed] a method and system for the electronic trading of stocks, bonds, futures, options and similar products.” 675 F.App’x at 1002. Specifically, “[t]he patents explain[ed] problems that arise when a trade attempts to enter an order at a particular price, but misses the price because the market moved before the order was entered and executed.” *Id.*<sup>2</sup> The plaintiff patent-holder sued the defendant for infringement of the

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<sup>2</sup> Both patents in *Trading Technologies* had the same specification, and the district court treated claim 1 of both patents as representative of the patents. For the sake of comparison to the claims in this case, claim 1 in that case stated in full:

1. A method for displaying market information relating to and facilitating trading of a commodity being traded in an electronic exchange having an inside market with a highest bid price and a lowest ask price on a graphical user interface, the method comprising;

dynamically displaying a first indicator in one of a plurality of locations in a bid display region, each location in the bid display region corresponding to a price level along a common static price axis, the first indicator representing quantity associated with at least one order to buy the commodity at the highest bid price currently available in the market;

patents, and the defendant moved for judgment as a matter of law on patent-ineligibility grounds. *Id.* The district court denied the defendant's motion, holding that the claims were not directed to an abstract idea.<sup>3</sup> *Id.* On appeal, the Federal Circuit affirmed, holding that those cases in which courts hold software patents are directed to an abstract idea "generally lack steps or limitations specific to the solution of a problem, or improvement in the functioning of technology," and that, by contrast, the claims at issue in *Trading Technologies* were "directed to a specific improvement to the way computers operate." *Id.* (quoting *Enfish*, 822 F.3d at 1334); *cf. Alice*, 573 U.S. at 219 (holding that the claims were directed to an abstract idea—using a third-party intermediary in financial transactions—and that reciting steps that

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dynamically displaying a second indicator in one of a plurality of locations in an ask display region, each location in the ask display region corresponding to a price level along the common static price axis, the second indicator representing quantity associated with at least one order to sell the commodity at the lowest ask price currently available in the market;

displaying the bid and ask display regions in relation to fixed price levels positioned along the common static price axis such that when the inside market changes, the price levels along the common static price axis do not move and at least one of the first and second indicators moves in the bid or ask display regions relative to the common static price axis;

displaying an order entry region comprising a plurality of locations for receiving commands to send trade orders, each location corresponding to a price level along the common static price axis; and

in response to a selection of a particular location of the order entry region by a single action of a user input device, setting a plurality of parameters for a trade order relating to the commodity and sending the trade order to the electronic exchange.

*Trading Techs.*, 675 F.App'x at 1003.

<sup>3</sup> The district court concluded in the alternative that the patents recited an inventive concept.

merely replaced a human intermediary with generic, well-known computer processes did not make the idea patentable).

The Court now turns to four cases in which the Federal Circuit held the patents to be directed to an abstract idea, and on which Defendants rely: *Content Extraction*, *Cyberfone*, *Digitech*, and *Electric Power* cases. In *Content Extraction and Transmission LLC v. Wells Fargo Bank*, the plaintiff had patented a method for scanning hard-copy documents, extracting and digitizing the information therein, and storing the digitized information on a computer system. 776 F.3d 1343, 1345 (Fed. Cir. 2014). Upon discovering that the defendant bank's ATMs were scanning customers' checks, digitizing information such as the check's amount, and storing that data, the plaintiff sued for patent infringement. *Id.* The Federal Circuit held that collecting, recognizing, and storing data in a memory all constitute well-known concepts that humans have always performed and that the patents were thus directed to an abstract idea. *Id.* at 1347.

Similarly, *Cyberfone* involved a patent for "obtaining data transaction information entered on a telephone from a single transmission from said telephone," "forming a plurality of different exploded data transactions . . . so that data from the single data transmission is separated and sent to different destinations," and "sending said different exploded data transactions" to different destinations. *Cyberfone Sys., LLC v. CNN Interactive Grp.*, 558 F.App'x 988, 991 (Fed. Cir. 2014). The Federal Circuit held that "using categories to organize, store, and transmit

information is well-established” and that “the well-known concept of categorical data storage . . . is an abstract idea that is not patent-eligible.” *Id.* at 992.

The asserted patent in *Digitech* also involved an abstract idea. Because digital image devices (e.g., a camera, monitor, TV, printer) allow for slightly different ranges of colors and spatial information to be displayed, when one device sends an image to another device, some distortion naturally occurs. *Digitech Image Techs., LLC v. Elecs. for Imaging, Inc.*, 758 F.3d 1344, 1347–48 (Fed. Cir. 2014). The patent in *Digitech* attempted to solve this distortion through the creation of “device profiles” that describe the color and spatial properties of both the source and output devices, “thereby enabling a more accurate translation of the image’s pixel data.” *Id.* at 1348. The district court awarded summary judgment to the defendants, holding that the “device profile” claims were “directed to a collection of numerical data that lacks a physical component or physical manifestation.” *Id.* The Federal Circuit agreed, noting that Section 101 allows patents for “any new and useful process, machine, manufacture or composition of matter,” and that, “[f]or all categories except process claims, the eligible subject matter must exist in some physical or tangible form.” *Id.* at 1348–49 (quoting 35 U.S.C. § 101). Because the “device profile” at issue, as a mere collection of information, was neither a process patent nor “a tangible or physical thing,” the court held that it did “not fall within any of the categories of eligible subject matter.” *Id.* at 1349.

Likewise, the claims in *Electric Power* were directed to “collecting information, analyzing it, and displaying certain results of the collection and analysis.” *Elec. Power*

*Grp. v. Alstom S.A.*, 830 F.3d 1350, 1353 (Fed. Cir. 2016). As with *Content Extraction, Cyberfone*, and *Digitech*, the Federal Circuit held that data collection is an abstract idea and thus unpatentable.

### **C. Application of Federal Circuit Precedent to the '572 Patent**

The above-cited precedent demonstrates that, at least at this early stage of litigation, the '572 Patent does not fail the Section 101 eligibility inquiry. The patent at issue here is less like those patents in the cases cited by Defendants involving data collection, data analysis, data transmission, data organization, data storage, *etc.*, and more like those in the cases involving a faster, more reliable, or more usable interface—*i.e.*, a specific improvement to the functioning of a computer. *See Trading Techs.*, 675 F.App'x at 1004; *Core Wireless*, 880 F.3d at 1359; *Data Engine Techs. LLC v. Google LLC*, 906 F.3d 999, 1011 (Fed. Cir. 2018) (holding that a claim directed to a system making 3D spreadsheets easier to navigate was patentable). Like the patents in *Core Wireless* and *Trading Technologies*, AR Design's claims as pleaded are not directed to an abstract idea or result but rather to a specific improvement to the way computers operate in creating that result. *Cf. Diehr*, 450 U.S. at 182 n.7 (holding that a patent may issue “for means or method of producing a certain result, or effect, [but] not for the result or effect produced”).

While the Section 101 eligibility inquiry turns ultimately on the language of the claims rather than the specification, the Court may look to the specification to shed light on what “the problem facing the inventor” was and what the patent describes as the “invention.” *ChargePoint, Inc. v. SemaConnect, Inc.*, 920 F.3d 759,

767 (Fed. Cir. 2019); *see also Bridge and Post, Inc. v. Verizon Commc’ns, Inc.*, 778 F.App’x 882, 886 (Fed. Cir. 2019) (“While the specification is helpful in illuminating what a claim is directed to . . . the specification must always yield to the claim language.”). Here, the ’572 Patent’s specification states that, while prior systems existed for rendering and editing 3D objects in 3D spaces, even the best of those systems is “not without drawbacks.” ’572 Patent col. 4 ll.7–8. For example, according to the ’572 Patent’s specification, one such system is “a software-based system for (i) interactively producing, and (ii) rendering, across a digital communications network, photorealistic composite images of interactively customized products in such surroundings as are customary to and specified by the viewer of the image.” *Id.* col. 3 ll.58–65. “This [prior] system discloses photorealistically displaying goods selected by a user in situ with an environment also selected or specified by the user to generate a photorealistic image using computational resources of the user’s client computer to ‘frame’ the scene, and the greater computational resources of a server and allied computers to, ultimately, render the 3D objects in a 3D scene to form a ‘photorealistic composite.’” *Id.* col. 3 ll. 66–67, col. 4 ll. 1–6.

While similar on its face to the instant claims, the ’572 Patent’s specification cites the following drawbacks with this prior system: (1) that there existed a “*time lag* associated with uploading the ‘frame’ of the scene, waiting for the server to render the 3D composite, and downloading a relatively large file or array of files”; and (2) that “*additional changes* made after such rendering, such as moving objects

within the scene, presumably *cannot be effected at the client computer*” but rather that “such changes would require the user to re-create or edit the ‘frame’, re-transmit it to the server, and again wait for the new composite to be rendered and downloaded.” *Id.* col. 4 ll. 8–17 (emphases added). Thus, the specification continues, “a need exists for an improved 3D design and visualization system that [1] includes an easy to use Graphical User Interface (GUI), [2] is capable of enabling a user to quickly and conveniently generate or import 3D scenes, import and manipulate 3D objects in the scenes in real time, and [3] which is capable of rendering them in photorealistic detail on the client computer.” *Id.* col. 4 ll. 18–24. The drawings contained within the ’572 Patent set forth in detail how this GUI would function and appear.

The Court concludes that the claims at issue, as illuminated by the specification, are “directed to” improvements to the manipulability and appearance of 3D scenes and objects, including luminosity characteristics, and the speed with which such scenes and objects may be rendered and edited. Because the claims here are directed to the system’s “speed” and “usability,” they are not directed to an abstract idea but are rather directed to specific improvements to a computer’s functionality. *Trading Techs.*, 675 F.App’x at 1004; *see also Data Engine*, 906 F.3d at 1011 (holding that, where claims recited a specific structure within a particular spreadsheet display that performed a specific function, the claims were directed to a specific improvement to the way computers operate and thus were patent eligible).

Defendants contend that AR Design’s claims are directed to the abstract idea of “retrieving, manipulating, and displaying three-dimensional objects in space.”

(Dkt. #19 at 18). Defendants claim that this is a longstanding human practice no different from making models or constructing dioramas. Indeed, if AR Design claimed a patent on making dioramas—a result or effect—the claims would be directed to an abstract idea and merely adding the words “apply it with a computer” would do nothing to make the claims patent eligible. *Alice*, 573 U.S. at 223; *see also McRO*, 837 F.3d at 1312 (“The abstract idea exception prevents patenting a result where it matters not by what process or machinery the result is accomplished.” (quotation omitted)). But AR Design’s claims, as a whole, appear to be directed to a specific process or tool for making digital dioramas—not the act of making dioramas itself. Specifically, AR Design alleges that its claims are directed to a software application that sets 3D objects in 3D scenes and that its claims improve upon this tool by allowing for the application of luminosity characteristics to the scene and the real-time manipulation of 3D objects on client devices via an easy-to-use graphical user interface.<sup>4</sup> The Court discerns no difference between improvements to a tool such as a hammer or saw that makes building dioramas faster and easier and a patent on specific improvements to a tool such as the software at issue that makes digital 3D modeling faster and easier. Thus, the Court believes Defendants’ characterization of AR Design’s claims is overly simplistic and does not capture the essence of AR Design’s claimed invention.

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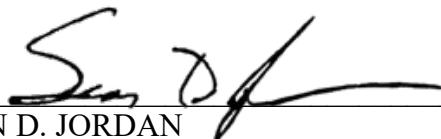
<sup>4</sup> Defendants themselves seem to concede that the ’572 Patent is directed to a specific tool for creating 3D composite images, not the abstract result itself. *See* (Dkt. #19 at 9) (“[T]he purported invention is *directed to a graphical user interface* (GUI) that allows the user to generate and import 3D scenes, import and manipulate 3D objects, and visualize the rendered images from various perspectives.” (emphasis added)).

Courts are instructed to refrain from making such generalizations regarding claims. “[I]f carried to its extreme, [the exclusionary principle] make[s] all inventions unpatentable because all inventions can be reduced to underlying principles of nature which, once known, make their implementation obvious.” *Diehr*, 450 U.S. at 189 n.12; *see also Alice*, 573 U.S. at 217 (cautioning courts to “tread carefully in construing this exclusionary principle [of laws of nature, natural phenomena, and abstract ideas] lest it swallow all of patent law”). Here, because AR Design alleges that the patent is directed to specific improvements of a computer that make 3D modeling easier and more usable, the Court concludes that the patent, as pleaded, is not directed to an abstract idea and that the allegations are sufficient to plead an eligible patent.

#### IV. CONCLUSION

For the foregoing reasons, the Court **ORDERS** that Defendants’ Motion to Dismiss, (Dkt. #19), is hereby **DENIED**.

**So ORDERED and SIGNED this 30th day of March, 2021.**



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SEAN D. JORDAN  
UNITED STATES DISTRICT JUDGE